

Liverpool John Moores University

Title: Mobile Computing
Status: Definitive
Code: **6510ENGSBC** (119424)
Version Start Date: 01-01-2012

Owning School/Faculty: Engineering
Teaching School/Faculty: The Sino-British College

Team	Leader
Russell English	Y

Academic Level: FHEQ6
Credit Value: 12.00
Total Delivered Hours: 35.00
Total Learning Hours: 120
Private Study: 85

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	20.000
Practical	15.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam		50.0	
Essay	CW		50.0	

Aims

This module will provide students with an introduction to mobile computing with emphasis on mobile communication technology and mobile application development.

Learning Outcomes

After completing the module the student should be able to:

- LO1 Understand the concepts of wireless voice and data communication technologies
- LO2 Use mobile application frameworks to develop mobile applications
- LO3 Design mobile applications using appropriate human-computer interaction design methods

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Exam	LO 1	LO 2	LO 3
coursework	LO 2	LO 3	

Outline Syllabus

Mobile technology overview; cellular networks; IEEE 802.11 wireless networks; wireless environment TCP/IP; global positioning systems; geolocation systems; Bluetooth; GSM; Mobile IP protocol; Java for mobile applications; iPhone SDK; Android SDK; low power and low resource computing; persistence; user interface guidelines.

Learning Activities

Delivered with a range of lectures and tutorials.

References

Course Material	Book
Author	Pahlavan, K; Krishnamoorthy, P
Publishing Year	2003
Title	Principles of Wireless Networks
Subtitle	
Edition	
Publisher	PHI/Pearson Education
ISBN	10: 0130930032

Course Material	Book
Author	Mednieks, Z; Dornin, L; Blake Meike, G; Nakamura, M
Publishing Year	2012
Title	Programming Android: Java Programming for the New Generation of Mobile Devices
Subtitle	
Edition	2

Publisher	O'Reilly Media
ISBN	10: 1449316646

Notes

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Describe Wireless Principles CCNA. April 27, 2020 April 27, 2020 admin CCNA, Cisco Certification. The new CCNA exam now includes topics from the discontinued CCNA Wireless exam. The current blueprint includes the topics listed below.

1.11 Describe wireless principles.

1.11.a Nonoverlapping Wi-Fi channels. 802.11 wireless network devices exchange data by transmitting and receiving radio signals in portions of 2 frequency bands " 2.4GHz and 5GHz. Many countries allow unlicensed use of subsets of these frequencies, but there are regulations restricting channel use and maximum transmit power. There are also restrictions on indoor vs outdoor use and even requirements for dynamic switching away from the specific channels when weather radars are discovered.

Networking or Messaging Layer Responsible for the communication of network resources, mobility, code format and call-related management messages between various network entities

5. GSM Protocol Architecture. Layer 3 Layer 2 Layer 1 TDMA/FDMA. References.

1. Principles of Wireless Networks: A Unified Approach, K. Pahlavan, P. Krishnamurthy 2. www.chu.edu.tw/~lhyen/wc/gsm.pdf
3. www.hit.bme.hu/~mihaly/mobil.hir/gsmbase.pdf

WiFi Technology Working Principle. Wi-Fi is a high-speed internet connection and network connection without the use of any cables or wires. The wireless network is operating three essential elements that are radio signals, antenna, and router. The radio waves are keys that make Wi-Fi networking possible. The computers and cell phones are ready with Wi-Fi cards.

802.11a is one of a series of wireless technology. That defines the format and structure of the radio signals sent out by WI-FI networking routers and antennas. Wi-Fi-802.11b. 802.11b is one of a series of wireless technology. 802.11b support bandwidth 11mbps. The signal in the unregulated frequency spectrum around 2.4 GHz. Wireless sensor networks are an emerging technology with a wide range of applications in military and civilian domains. The book begins by detailing the basic principles and concepts of wireless sensor networks, including information gathering, energy management and the structure of sensory nodes. It proceeds to examine advanced topics, covering localisation, topology, security and evaluation of wireless sensor networks, highlighting international research being carried out in this area. Finally, it features numerous examples of applications of this technology to a range of domains, such as wi...

Principles of Wireless Networks: A Unified Approach December 2001. December 2001. Read More. A true systems approach to wireless networking Air interference design and network operation Planning, mobility management, radio resources, power management, and security 3G, WLANs, HIPERLAN, WATM, Bluetooth, WPAN, OFDM, UWB, wireless geolocation, and more This is the first book to present a unified common foundation for understanding and building any contemporary wireless network, voice or data from PCS to wireless LANs, Bluetooth to. IMT-2000 3G.